

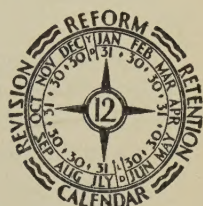
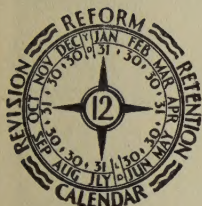
# JOURNAL OF CALENDAR REFORM

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## PHILOSOPHICAL SOCIETY ACTS

*By C. F. SKINKER*

*Executive Secretary, American Philosophical Society*

The American Philosophical Society, which held its convention in Philadelphia in October, was founded in 1727 for the purpose of "promoting useful knowledge." Its present membership of 500 is selected from among men of the greatest eminence in science, letters and the liberal arts. At its October meeting, it adopted the following resolutions regarding calendar reform:

"RESOLVED, that the American Philosophical Society, having considered the two principal proposals for calendar reform mentioned in the League of Nations report of 1931, hereby expresses its preference for the 12-month plan known as The World Calendar; and

"RESOLVED, that the Society would welcome the adoption of this 12-month plan, provided a substantially unanimous agreement among the civilized peoples of the world is secured in favor of the change."

The considerations which led the Society to these conclusions are briefly summarized in the following report.

TEN or fifteen years ago, any reform of the calendar might have seemed wholly impracticable. But since the League of Nations has taken up the matter—first through its Committee of Enquiry in 1926, and later through its General Conference of 1931, attended by representatives of 44 nations—the question has become one of immediate practical importance.

The League very wisely took no definite action in 1931, regarding its work up to that time as of a preparatory and educational nature. But since 1931, national organizations in many countries (stimulated and encouraged by the attitude of the League) have continued this program

of education so successfully that informed public opinion may now be said to be generally conscious of the defects of the present calendar and widely interested in its improvement. (A comprehensive and impartial historical account of the whole subject will be found in a recent paper by Professor A. E. Kennelly: "Proposed Reforms of the Gregorian Calendar," *Proceedings of the American Philosophical Society*, vol. 75, pp. 71-110, 1935. Abstract published in *Journal of Calendar Reform*, October, 1935.)

It is understood that the League of Nations is prepared to place the question of calendar reform on its agenda for 1936 provided at least two important nations so request.

The principal proposals mentioned in the League of Nations Report of 1931 are the "13-month plan" and the "12-month plan."

The 13-month plan is the plan sponsored in this country by the late Mr. George Eastman and actively promoted by the International Fixed Calendar League (1 Regent Street, London, England, or 343 State Street, Rochester, New York). According to this plan, a thirteenth month, to be called "Sol," would be inserted between June and July, and every month would begin on a Sunday and contain exactly 28 days, or four weeks. An extra day called "Year-Day" (to be dated December 29 without week day name) would be inserted at the end of every year; and an extra day called "Leap-Day" (to be dated June 29 without week day name) would be inserted between the sixth and seventh months in every leap year.

The 12-month plan is the plan known in this country as "The World Calendar" and advocated by The World Calendar Association (485 Madison Avenue, New York City; organized in 1930; Miss Elisabeth Achelis, President). According to this plan, the year would contain twelve months divided into four exactly equal quarters, each quarter consisting of three months of 31, 30, and 30 days. Each quarter would begin on a Sunday, and every month would contain the same number of week days (26). An extra day called "Year-End Day" (to be considered as an extra Saturday and dated either "December Y" or, as many prefer, "December 31") would be inserted at the end of every year; and an extra day called "Leap-Year Day" (to be considered as an extra Saturday and dated either "June L" or, as many prefer, "June 31") would be inserted in the middle of every leap year. (A leap year is defined, as usual, as any year which is divisible by 4, excepting such centurial years as are not divisible by 400.)

#### DISSATISFACTION WITH THE PRESENT CALENDAR

The numerous disadvantages of the present calendar—for example, the difficulty of adjusting industrial and educational schedules to the vagaries of wandering holidays, and the difficulty of making satisfactory



statistical comparisons between one period and another—are too familiar to require cataloging here. The important point to note is that the general dissatisfaction with the present calendar is now becoming vocal. Vigorous resolutions are being adopted by a rapidly increasing number of important organizations. We mention only two of the most recent.

In October, 1934, a resolution prepared under the leadership of Bishop William T. Manning of New York, emphatically condemning the present calendar and urging the adoption of The World Calendar, was unanimously adopted by the General Convention of the Protestant Episcopal Church. (This resolution emphasizes also the importance of the stabilization of Easter in connection with the new calendar.)

On April 4, 1935, equally strong resolutions in favor of The World Calendar were unanimously adopted by the Chamber of Commerce of the State of New York.

#### DIMINISHING IMPORTANCE OF THE 13-MONTH PLAN

Until recent years, the only practical means of expressing dissatisfaction with the existing calendar was by supporting the 13-month plan.

The 13-month plan (which had been devised as far back as 1888 by a Canadian, Mr. Moses B. Cotsworth) secured an extensive following under the active sponsorship of Mr. Eastman, and when the League Conference met in 1931, the Canadian and Yugoslavian delegates (officially) and the American delegate (unofficially) were definitely committed to its support.

At this conference, however, the arithmetical disadvantages of the number 13, and the almost insuperable difficulty of accomplishing so radical a change as the introduction of a 13th month into the year, were so obvious that determined opposition was immediately raised against the plan. The number of delegates definitely committed to either the 13-month plan or the 12-month plan was comparatively small. But among those who were not ready to commit themselves in favor of either plan opposition to the 13-month plan was vigorous and widespread. For example, Italy, Japan, Belgium, the Irish Free State, the Netherlands, and Sweden were definitely opposed to any 13-month plan. No such opposition developed against the 12-month plan.

Since 1931, it has become increasingly clear that the 13-month plan has no possible chance of winning the necessary world-wide support. (The argument most frequently presented in favor of the 13-month plan, namely, that many business firms have adopted a four-week period for their internal accounting, seems to have little bearing on the question of revising the civil calendar.)

It should be stated, however, that the agitation in favor of the 13-month plan, although it failed to suggest a successful remedy, was nevertheless



of great service in calling public attention to the defects of the present calendar, and to the need of reform. Many persons who originally favored the 13-month plan, at the time when it was the only plan available, are now supporting the 12-month plan.

#### ADVANTAGES OF THE 12-MONTH PLAN

The 12-month plan, or The World Calendar, appears to remove the objectionable irregularities of the present calendar without calling for any depressing dead level of uniformity.

Since any given date would always fall on the same day of the week, all such clumsy circumlocutions as "the Monday after the first Sunday in September," etc., would be entirely done away with. Except for Leap-Year Day, the calendar would require no change from year to year.

The fixation of holidays on permanent dates would be of special advantage to those who have to arrange educational and industrial schedules, which are now so irregular and confusing. National holidays would doubtless be arranged so as to fall permanently on the week day which in each case is best suited to the purpose, the month day being unchanged from year to year.

For statistical purposes, the comparison between any period in one year and the corresponding period in any other year would be greatly facilitated. Each quarter (which is commercially and financially an important unit) would be exactly like every other quarter; and every month would contain exactly 26 week days. It is interesting to note that in reply to a questionnaire sent to members of the American Statistical Association in 1934, when the 13-month plan was more prominent than it is at present, an overwhelming proportion were in favor of calendar reform, and over 70 per cent were in favor of the 12-month plan as against the 13-month plan.

The vast amount of statistical data which has been accumulated throughout the world would retain its value unimpaired after the adoption of The World Calendar, and the value of future statistics would be greatly enhanced.

#### RELIGIOUS QUESTIONS

Certain Christian denominations and certain groups of Jews are strongly opposed to both the 13-month and 12-month plans on account of the intercalary days (Year-End Day and Leap-Year Day), which are thought to disturb the succession of the seven-day week. A logical answer to this objection would seem to be supplied by The World Calendar device of calling these days "extra Saturdays." A "double Saturday" is already familiar to every traveler who has crossed the "date line" in the Pacific Ocean from west to east. He goes to bed, say, on Saturday, May 4; when he wakes up the next day it is still Saturday, May 4. Of course, any other



day of the week may be similarly "doubled." Conversely, when traveling from east to west, a day is "lost" on crossing the date line. Both of these events disrupt the sequence of the seven-day week, but neither of them has been brought up as an argument against the date line.

A much more important religious question is the movement for the stabilization of Easter, which is making rapid progress throughout the Christian world. While the Easter question is not a necessary part of the question of calendar reform, and must, of course, be settled by religious authorities, the two questions are closely related, and it is to be hoped that both will be settled together.

#### EASE OF TRANSITION TO THE WORLD CALENDAR

An important practical advantage of The World Calendar is the ease with which the transition from the present system to the new system could be accomplished.

The confusion between "Old Style" and "New Style" which accompanied the last reform of the calendar (by Pope Gregory XIII in 1582) was caused solely by the necessity of dropping ten days from the calendar in the transition year.

No such confusion would be caused by the adoption of The World Calendar today. The shifts required are so slight that little trouble, either legal or social, would result. The advantages of securing a perpetual calendar seem well worth what little inconvenience might be involved.

The change should of course be made in a year in which January 1st is a Sunday. Such a year occurs in 1939, but not again until 1950.

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#### OBITUARY NOTES

**F**RED R. PETERS, Editor of the Evansville, Ohio, Press, died June 16 at the age of 60 years. An early member of The World Calendar Association, he was influential in bringing the reform to the attention of the public through his newspaper.

**P**ROF. EDWARD S. DANA, leading American geologist, died in New Haven on June 17 at the age of 85 years. For 43 years a member of the Yale faculty, chairman of the Board of the Peabody Museum and Editor of the "American Journal of Science," he had been an active advocate of calendar reform for many years.

**W**ILLEM WESTERMAN, one of the foremost bankers of Holland, died recently at the age of 71 in The Hague, Holland. He was chairman of the Board of the Holland-American Line and a member of The World Calendar Association since 1934.

**O**THER deaths among the membership of The World Calendar Association during the past year included: Dr. Voislav Marinkovitch, former Premier of Yugoslavia; Prof. G. H. Hamilton, astronomer of the Harvard Observatory at Kingston, Jamaica; Commander Alvaro Ribeiro, Director of Radio Service of the Portugese Navy; Rev. Almon A. Jaynes, Episcopal Archdeacon of Central New York; A. J. Hazlett, publisher of Inland Oil Index and former member of the Ohio legislature; Frank B. Anderson, chairman of the Bank of California; and William C. Fletcher, secretary of the Metropolitan Life Insurance Company of New York.



# BENEFITS TO THE CLERGY

By THE MOST REVEREND VALENTIN PANZARASA

Rector del Colegio Patrocinio de San Jose, Bellavista, Santiago, Chile

A NATURAL premise to any statement by a Catholic priest on calendar reform will be that an ultimate decision must rest with the Head of the Church. But on the supposition that the Vatican should eventually accept some form of a permanent calendar—and more particularly, the very popular plan advocated by The World Calendar Association—one can see from the standpoint of the Catholic clergy a number of decided advantages in the proposed reform.

As things now stand, there are really two series of days in the church calendar: one invariable and attached to definite dates (*Proprium de Sanctis*, Proper of the Saints), and the other varying with the date of Easter (*Proprium de Tempore*, Proper of the Time). In a new calendar, with Easter fixed on an unchangeable date, these two series of feasts could be combined and stabilized, with the result that there would be only one, and that an invariable, series of feasts, including both the present movable days and the fixed days.

Practically, this would mean a great simplification both of the Missal, as used for the saying of Mass, and of the Breviary, which is followed for the recitation of the Divine Office. As things are now, the Missal has three principal parts: the Proper of the Time, the Proper of the Saints, and the main, invariable portion of every Mass which is called the Canon (*Canon Missae*). The latter, being used most, is placed in a convenient place toward the center of the Missal: actually, it is to be found at present between the Mass for Holy Saturday and that for Easter Sunday.

When Mass is said, it is necessary usually to turn all three portions of the Missal a number of times as the sacred ceremony proceeds; and when there is a combination of ecclesiastical feasts the process of referring to different parts of the book becomes rather involved. Thus, in saying the Mass of the Venerable Bede on May 27, 1935, which is at the same time a Rogation day and the feast of St. John I, Pope and Martyr, it is necessary to start in the Proper of the Saints, then go to the Proper of the Time for a commemoration of the Rogation day, then turn back to the Proper of the Saints for the commemoration of St. John, then turn to the Canon, and so on to the end of the Mass, the last gospel of which comes from the Proper of the Time.

With a permanent calendar these matters would be greatly simplified. It would be necessary to turn to only one place in the Missal apart from the Canon: in the present instance (supposing the liturgical picture for May 27, 1935, to become part of a permanent calendar), to that portion of the



Missal containing the Mass or commemoration of the Venerable Bede and of St. John and of the Rogation day all in one place. With the supposition of a permanent calendar, the Canon could be kept in the same place it holds at present, dividing the offices of the Missal between Holy Saturday and Easter: then the first part of the Missal would contain the combined offices of feasts, Sundays and Saints up to Easter, the second those after Easter.

In similar fashion, the *Breviary* would be simplified and shortened. As it is, the *Breviary* appears usually in four parts and as many distinct volumes: Winter, Spring, Summer, Autumn. Each of these parts contains three subdivisions, as is the case with the Missal: the Psalter, or portion that is repeated week after week for the respective weekdays, the Proper of the Time, and the Proper of the Saints. All this might, of course, be printed in one volume, as is the case with the Missal: and then it would be necessary to print the Psalter only once. But the result would be a book so bulky as to be highly inconvenient, and the present division by seasons is the result; although even these volumes as at present constituted are of a notable size. This latter fact is accounted for to some extent by the circumstance that each part of the present *Breviary* must contain the variable feasts that may be commemorated only some of the time in its respective season. The result is a notable amount of overlapping in each of the *Breviary* volumes.

With a new order of things there would be no need of repetitions, since the offices of the four seasons would not vary from year to year. Indeed, it might even be possible to print the *Breviary* conveniently in two volumes. At any rate, the constant annoyance of turning over pages and looking for widely scattered offices would be much reduced, to the notable advantage of the individual priest's attention and devotion.

A further simplification as regards the liturgical books would be that, the relation of the moon to the celebration of Easter being eliminated, we should automatically do away with the numerous astronomical and historical data—quite difficult to understand, by the way—which are now to be found at the beginning of the *Breviary*, and which give information about the Golden Number, the Epacts, the Dominical Letter, etc.

In the same way, all the rules and tables for the concurrences of feasts would no longer be necessary.

These matters, which take up the major portion of the introduction to the *Breviary*, could be replaced by a detailed history of the Divine Office and a treatise on the great importance of its recitation for every priest and for the whole ecclesiastical world.

There would also ensue from calendar fixation another very advantageous simplification as regards the Church's liturgy. At the present time it is necessary to draw up a new ecclesiastical calendar every year as a guide to the Divine Office and the Sacrifice of the Mass. With the reform, one calendar would be good for several years, or, indeed, for all time. This



would save priests the trouble of securing new calendars at the beginning of every year and of having to wait when their printings are delayed.

As one thinks the whole matter over, particular angles of it will appeal to him. Thus, the Sundays after Pentecost in the present Breviary have their offices divided into two parts. One part belongs to the given Sunday no matter on what date the latter falls; the other part belongs to the Sunday in accordance with the actual date itself. With the new reform these parts would be combined and the offices for the Sundays after Pentecost would have the same unity as those after Easter.

Again, with the new calendar the extraordinary offices and the vigils of all solemn feasts would be forever fixed on their respective dates, doing away with the doubts occurring about this matter when the vigil or fast day falls on abolished feast days. And the fact that every saint's feast would fall on the same day of the week each year would be an appreciable advantage in home life. The commemoration of any solemn family event (for instance, a first Communion, a first Holy Mass) on a given feast or saint's day would always fall on the day of the week it had originally happened.

As regards scholastic matters, the fixing of Easter would be a great help because the school year would thereby be divided into well-defined parts, and school hours, study subjects, etc., could be more easily and regularly determined.

There are, of course, from the religious standpoint, some objections that may be brought against the idea of a fixed calendar; but these are easily answered.

It may be said, for instance, that with the proposed reform there would be lost the ancient Christian and Hebrew tradition of celebrating Easter at such and such a time, when it is full moon, in such a relation to the equinox, etc. True, there will no longer be the traditional correspondence of time and season in certain ways; but the feast can be celebrated in another way, just as other events in the sacred liturgy are commemorated; that is to say, by a set, definite date. And the advantages of a change in the calendar are so evident that we should be willing to sacrifice one or the other detail of historical association.

Others might object that, with Easter fixed, a certain monotony would be produced in the seasons and feasts of the Church, because every year on the same days we should have the same service, the same Mass, etc. But all this is somewhat relative. The "monotony" disappears when the prayers and pious practices, periodically repeated, are thoughtfully considered in their true significance and value. Each one of them is so full of ideas and lessons about faith, charity, Christian virtue, the lives of our Lord Jesus Christ and the saints, that every day one can find in the Church's liturgy an inexhaustible source of grace, of unction, of inner life. This certainly does away with any possible suggestion of monotony.

But if the feast of Easter is fixed, will not the feasts of many saints be eliminated, because they would be eclipsed by other feasts of greater importance falling on the same day? One may simply reply that the ecclesiastical authorities have very easy means of avoiding this inconvenience. They could very well set down in the Missal and the Breviary the Mass and Office of both solemnities on the same day, and by a rotary system, have one of the concurring feasts celebrated one year and the other the next year. Thus would just prominence be given to all feasts and an element of variety be introduced.

With all due respect to competent ecclesiastical authority, one might at this point make one or the other suggestion on the assumption that the proposed calendar were accepted by the Church. For instance, certain feasts could be fixed according to a better chronology. Take the Slaughter of the Innocents. This event certainly took place after the Epiphany, and we now commemorate it before that day. The Presentation of the Child Jesus in the temple occurred before the Epiphany, according to the opinion of the best biblical authorities, and we celebrate it in opposite order. Also, some Sunday gospels could be changed on account of their being too difficult for the common people.

However, such questions must be left to the decision of the proper ecclesiastical authorities. But concerning the general advantages of a fixed calendar there can be no doubt. Every priest who studies the problem cannot but confess that the reform of our calendar would bring many pronounced benefits to the whole Christian world.



# MAN'S MEASUREMENT OF TIME

By CHARLES FRANCIS POTTER

RECENTLY two men in a New York office building, seated only fifty feet apart, talked to each other around the world in the first two-way globe-encircling conversation. This epochal telephone talk occurred at half-past nine in the forenoon. That is, it was that time in New York, but it was half-past two in the afternoon in London and ten o'clock at night in Java. One voice went east into tomorrow, and one went west into yesterday. Then both came back into today. These men were talking yesterday, today and tomorrow at practically the same instant, for it took less than one-fifth of a second for their voices to go around the world. It was the same time all the time and yet they talked in three days at once. It is evident in the light of these facts that time is a relative matter, and that our measurements of time have their limitations.

We have divided time into years, months, weeks and days, and have subdivided the day into hours, minutes, and seconds. These time-divisions are all based on astronomical facts. A year is the time it takes the earth to pass around the sun. A month is, approximately, the time of the revolution of the moon. A day is the time it takes the earth to turn completely round on its axis. The origin of the week is obscure, but the seven-day period may have been derived from the phases of the moon or from the supposed number of planets known to early observers.

The essence of time is motion. When you are asked what time it is, you arrest time for a moment and give an answer in agreement with the system of time measurement to which you and your questioner are accustomed, but by the time you have given your answer, it is already incorrect. I smile when I see a sign in a window over a clock reading "Correct Time." The sign may even specify "Eastern Standard Time," or "Daylight Saving Time," but I know that the particular time indicated by that particular timepiece is simply the approximately right time according to a certain understood arrangement.

The United States and Canada, for instance, have been divided into certain zones, in each of which a synchronized time has been agreed upon. There are several belts of time, Atlantic, Eastern, Central, Mountain, and Pacific, each an hour earlier in the order named. The time used in each of these zones is not "correct sun time" except in a narrow line in the approximate center of each of these belts. At the western edge of each zone, the time used is really almost a half-hour fast, and at the eastern edge, almost a half-hour slow.

A few decades ago, before the railroads introduced a faster system of travel and made time important, each American community had its



own time. Even when the railroads came, each railroad had its own time. In 1878, a Scotch Canadian named Sandford Fleming proposed a scheme for ending the confusion which had, of course, resulted. He suggested dividing the earth into 24 sections, since the earth took 24 hours to revolve. These sections were to start from Greenwich, a borough of London, England, chosen because a Royal Astronomical Observatory had there existed since 1675, from which time-signals were customarily sent. East and west from Greenwich, each 15 degrees of longitude wide, the 24 zones were to stretch around the world, and in each zone the clocks were to be set exactly alike. As one passed west from Greenwich into the next zone, clocks were to be set one hour earlier, and east, one hour slower.

This proposition of Sandford Fleming met with considerable opposition. The old local time was defended as "God's Time," just as some farmers have in our day opposed Daylight Saving Time and have insisted that God's Time is Standard Time, the Sandford Fleming Time, which, less than 60 years ago, their fathers opposed as the Devil's Time.

But Standard Time was gradually accepted, because it afforded advantages which could not be ignored in the new mechanical era of steam and gasoline. And we have accepted Daylight Saving Time, or, as they call it in England, Summer Time, whereby we amend Standard Time for four months each summer by adopting temporarily the time of the next Standard zone to the east, thereby saving ourselves expense in electric light, for one thing. By setting our clocks ahead one hour in the spring, theoretically losing an hour of our lives, we gain an extra hour of daylight. In the fall, when it doesn't matter, we take the hour back. The value of such an arrangement has become apparent through use, and the opposition to the practice has grown less each year. Moreover, the success of this experiment in "tampering with the clock" has made us less hostile to so-called "tampering with the calendar."

Gradually we have come to see that, practically, time is a matter of arrangement, and that measurements of time are to be determined by common consent for common convenience. The view that time is something static, and that "time and tide wait for no man," is seen to be a superstition. Within certain limits, man can manipulate time to his own advantage. All its measurements he has devised for his own use, and it is he that has invented machines for its measuring.

First he had very crude hour-glasses, clepsydras, and sun-dials. It was not until 996 A.D. that the first clock was invented by Pope Sylvester the Second. Even in the 13th and 14th centuries the clocks in castles and cathedral towers were still wonders to the common folk.

Clocks are clever mechanical devices which imitate the rotation of the earth. If you had a clock whose hour-hand revolved once in 24 hours instead of twice, and set it up so that its face was in a plane parallel



with the equator, with the right side of the clock up, and pointed the hour hand at a certain star, that hand would follow the star through the rest of the night, all day, and still be pointing to it the next night when it appeared in the evening sky. If it were a sidereal clock, it would keep it up indefinitely, but an ordinary clock would lose four minutes a day.

French, German, and English clockmakers vied with each other to make their clocks complete time-measuring devices. They were not content to have the clock merely strike the hours, and record hours and minutes on its dial. Complicated mechanisms were soon developed which indicated the half-hour and the quarter-hour, and recorded even the passing of seconds by an additional hand on the dial. Still other hands with their regulating cogs showed the phases of the moon, the position of the sun, the day of the week, and the day of the month. The uneven length of the various months, however, made it necessary for the clock-owner to reset the day-of-the-month hand at the end of most months. The more a clock tried to show, the more likely it was to get "out of kilter." Consequently the complicated clocks fell into disfavor.

When a man wished to know anything beyond the minute and hour, he resorted to a calendar or almanac. At first the churches had charge of the calendar, for the church year regulated the secular year. But the keeping of state records and the rise of commercial houses with their dated paper, interest charges, and yearly accounts soon required state and business calendars in addition to the church's records. With the rise of the idea of advertising, certain business houses took on the responsibility of keeping their customers informed about the passage of time and the approach of maturing notes by issuing yearly calendars of greater or less attractiveness, bearing the imprint and, later, modest statements of the prestige of the house and the scope of its business. From these simple beginnings developed the elaborate advertising calendars, pocket date books, and diaries, supplied by commercial firms and banking houses to their customers. A calendar of some sort was necessary for everybody, because every year was different from the preceding year.

Meanwhile, in the astronomical observatories and physics laboratories, the measurement of time had become an exact and precise science. Careful observations were taken of the yearly, monthly, and daily positions of certain stars, of the moon, and of the sun. Research determined, to the 100,000th fraction, the length of the year and of the month in days. It became evident, as these careful studies continued, that there was no common denominator of even units between days, months and years.

A day is, of course, the time occupied in the revolution of the earth. But it seems that the exact length of the day varies accordingly as you take observations from the sun, the moon, or the stars. Originally, a day was the time it was light, but that varied so much that a day became the



time between the morning appearances of the sun, so two meridian passages of the sun came to constitute a day. But the sun has an eastward motion, and the solar day is four minutes, approximately, longer than the sidereal day. Moreover, the length of the solar day is constantly fluctuating, so the astronomers have to imagine a regular solar day, which they call a mean solar day, and the time marked by this imaginary sun is called "mean solar time." The sun dial shows apparent solar time, but the clocks and watches show mean solar time. The sun is always fast or slow.

It is the mean solar day which is divided into 24 hours of 60 minutes each. The sidereal day, which is more nearly accurate, is 23 hours 56 minutes and four seconds of mean solar time long. To be accurate, astronomers divide the sidereal day into 24 hours which are shorter than solar hours. In a year of 365 solar or civil days, there are 366 sidereal days. And the civil or legal day runs from midnight to midnight, while the church or ecclesiastical day runs from sunset to sunset, which complicates matters still further. Then there are court days, law days, and stock exchange days. When, forsooth, is a day a day?

The month is still more complicated. There are lunar months, anomalistic months, sidereal months, tropical months, nodical or draconic months, and solar months, to say nothing of interest months. Lunar months are figured as the time between new moons. Anomalistic months are the elapsed time taken by the moon in passing from one perigee to the next. (A perigee is the time when the moon is nearest the earth.) The sidereal month is the mean time it takes for the moon to make the circuit among the stars. The tropical month is the time it takes for the moon to traverse 360 degrees of longitude. The nodical or draconic month is the mean time it takes for the moon to pass from one rising node to the next. (The node is where the orbit of the moon intersects the orbit of the earth.) The solar month is just one-twelfth of a tropical year. No one of these months is of the same length as any other. By careful astronomical observations it has been determined that the exact lengths of these various months is as follows: Synodic, 29.53059 days; anomalistic, 27.55460 days; sidereal, 27.32166 days; tropical, 27.32156 days; nodical, 27.21222 days, and solar, 30.43685 days. An interest month is exactly 30 days. How long, forsooth, is a month?

The year varies similarly. A tropical year, which is the year adopted by the chronologists and most calendarists, is the time taken by the sun in passing between two successive vernal equinoxes. It is exactly 365 days, five hours, 48 minutes and 46 seconds. The sidereal year is longer, for it is the actual time taken by the earth in its orbital revolution, namely, 365 days, six hours, nine minutes and nine and one-half seconds, for it is longer on account of the procession of the equinoxes themselves. The anomalistic year is still longer, because the earth's perihelion itself moves. (The perihelion is the point of the orbit of the earth nearest the sun, which varies from year to year.) Now, the anomalistic year is the time between the successive returns of the earth to the perihelion point, and, due to the drag, its length is 365 days six hours 13 minutes and 53 seconds. The anomalistic year is, therefore, four minutes and about 43 seconds longer than the sidereal year.

These variations seem insignificant, since they are matters of only minutes and seconds, but in the course of a century they count up, so it is important in exact measurement to ask, What do you mean by a year? What kind of year is it?

The measuring of time is, obviously, a relative matter. We must frequently adopt a compromise between what has been and what should be. No radical changes can be accomplished immediately. The calendar which we are using at present is, itself, a compromise, an improvement



upon what went before, brought about in spite of opposition. If we can improve it still more, this is highly desirable.

As time passes, we discover ways by which we can eliminate some of the previous mistakes of time measurement. If we have, in the past, decided that some ways of measuring time are inaccurate, and have improved them, to the benefit of all concerned, we can always, in the light of new knowledge, revise those ways, for our common good.

The proposed World Calendar is simply a further revision of the tentative agreement of some centuries ago. We live and learn, as the old proverb has it. If we have discovered that there are ways by which we can improve our calendar, well and good. There is nothing unusual or revolutionary about changing the calendar. It has been changed time and again. Julius Caesar, with the aid of the Egyptian astronomer Sosigenes, made a great improvement. Pope Gregory, with the help of Lilius and Clavius, changed it again. Why should not their work be continued?

It is over three and a half centuries since Pope Gregory dropped 10 days in order to make the civil calendar agree with the reckonings of astronomers, and in that time we have learned much. It is nearly 2,000 years since Julius Caesar gave us our present calendar, for Gregory's change was a minor one. We are now using the calendar of Julius Caesar, to all intents and purposes. Why use the calendar of two millenia ago when we have progressed so far in other departments of human life?

Is there any reason whatsoever for our having 31 days in July and 31 in August and only 28 in February, thereby upsetting all our monthly computations every year? We are simply catering to the personal egotism of two Roman emperors who lived and died many centuries ago. Their silly selfishness was written into the calendar, and no generation since has had the initiative and good sense to even up the months. This present generation may be progressive and rational enough to adopt The World Calendar and thereby right a wrong and eliminate an inconvenience which has troubled 60 generations.

Time was made for man and by man, and not man for time. Through the scientific progress of the last few generations man is now in possession of all the information he needs to set up an accurate measurement, tabulation, and calendar of time. Because of his own inertia and his disinclination to abandon the familiar, he still uses a calendar inherited from a prescientific age. The proponents of The World Calendar offer a sane, scientific, modern way of reckoning the days and months, with every quarter-year the same, and every year the same. Leading thinkers of our day have endorsed it. It is high time this desirable new calendar was adopted. In 1939, January first comes on Sunday, as it does every year in The World Calendar. That date would be an excellent time to adopt the new system.

# VIEWS OF ORTHODOX CHURCH

By ARCHBISHOP CHRYSOSTOMOS OF ATHENS

(Abstracted by C. D. MORRIS)

CALENDAR REFORM came sharply to the attention of the Eastern Orthodox Church in 1919, when a special commission was appointed by the Holy Synod, consisting of the Archbishop Germanos, the Metropolitan Ambrosius, and the university professors Chrysostomos Papadopoulos (now Archbishop of Athens), Demetrius Eginitis and Emmanuel Zolota. At this time the Julian calendar was still generally in use throughout the Orthodox countries. The Commission reported as follows:

"We consider that a reform of the Julian calendar, being unobjectionable on dogmatic or canonical grounds, might be carried out, on condition that the change shall take the form, not of adhesion to the Gregorian calendar, but of the preparation of a new calendar, more scientifically accurate and not suffering from the defects of the two calendars now in use, Julian and Gregorian."

This decision was based on information that the League of Nations was about to propose a more perfect calendar than either the Julian or the Gregorian, and it was to this proposed new calendar that the Commission referred, hoping that the plans of the League would move forward speedily.

The Commission's report was later approved and adopted by the Holy Synod of the Church of Greece, which added a suggestion for an interim arrangement, as follows: "If the State, not hoping for a speedy completion of the League's new scientific calendar, and feeling the increasing difficulties arising from the fact that neighboring states have adopted the Gregorian calendar, thinks it impossible to remain in the present situation, it is at liberty to adopt the Gregorian or European calendar, while the Church retains the Julian system until the institution of the League's new scientific calendar."

Meanwhile the Ecumenical Patriarchate in Constantinople and the other churches, particularly those of Russia, Serbia and Rumania, had come to regard the reform of the calendar as an urgent ecclesiastical and social necessity. The attitude of the Ecumenical Patriarchate was made clear in a report on September 1, 1920, which said:

"A definite revision of the calendar is imperative, one which does not conflict with dogmas or canons. This can be attained either by the working out of a more perfect calendar or by the adoption of the most perfect of those now in existence. It is imperative, however, that without waiting for this, the Church should arrive at a provisional arrangement."

Previously, however, the Gregorian calendar had been introduced for civil use in certain Balkan states and partially in the crumbling Russian



Empire. The Russian Church had entered upon a period of indescribable vicissitudes. At the end of 1917 it had given permission to the provinces of Finland, now politically separated from Russia, to apply the western calendar sectionally where desired by the people. The autonomous Church of Finland was the first Orthodox church to adopt the western calendar. The Esthonian church followed. For Russia and the other Orthodox areas, great difficulties arose, through the absence of regular relations between the great patriarchates. In Greece a new Commission studied the question, its membership including, besides Professors Chrysostomos Papadopoulos and Eginitis, various government representatives and Professor A. Alivisatos.

The Ecumenical Patriarch in Constantinople communicated a circular letter to the Churches, stating that the Neareastern governments, which had hitherto waited for the League of Nations to achieve a new and better calendar than either the Julian or Gregorian, were one after another going over to the European calendar. The letter continued:

"Although this action by government has left the festivals of the Church untouched, it is nevertheless obvious that no little difficulty is created in everyday life by the use of two calendars side by side. For this reason, petitions reach the Church from all quarters that a way be found of bringing the individual church member into harmony with himself as a citizen and a Christian. It is also important from the viewpoint of Christian unity that all those who call upon the name of the Lord shall celebrate his birth and resurrection on the same day. Still another reason is urgent: in America, two million Orthodox Christians either do not keep the feasts of their own Church or keep them with an obvious prejudice to their material interests, and amelioration of this situation imposes itself as a sacred duty upon the Church as pastor of the flock."

In 1923, a Panorthodox Congress convened in Constantinople under the presidency of the Patriarch Meletius, to discuss the calendar situation. It declared that removal of the conflict between religious and civil calendars was "an indispensable necessity," and ruled definitely that "no canonical obstacle exists to the reform of the ecclesiastical calendar." Indicating that their proposal was an interim one, the Congress stated in its final resolutions that "the proposed change in the Julian calendar shall not constitute an obstacle to any later amendment of the same which may be accepted by all the Christian churches."

Then it proceeded to adopt another set of resolutions, dealing with the more general question of calendar reform. After stating that a scientific general revision of the calendar was being considered by the League of Nations and by governments, these resolutions carefully outlined the conditions under which the Orthodox Church would be able to accept a new and more perfect calendar, as follows:

"This Congress requests the Ecumenical Patriarchate, after previous



agreement with the various Orthodox churches, to signify to the League of Nations that the Church is quite prepared to accept the new calendar which is being devised, provided the same is accepted by all the Christian churches. While the Orthodox Church would prefer a calendar preserving the continuity of the week, it is nevertheless not bound by such a preference if the other Churches agree to acceptance of a new calendar involving interruption of this continuity. Moreover, if the common consent of the Christian Churches is obtained, the Orthodox Church is prepared to pronounce in favor of the stabilization of the festival of Easter on a day which must always be Sunday, but a desire is expressed that such an immovable Easter shall correspond to the actual Sunday of Our Lord's resurrection, determined by scientific methods."

The latter resolutions had in view the League of Nation's proposals for a new and more perfect World Calendar, while the first set of resolutions furnished an interim solution of the immediate calendar question in the Orthodox countries. Unfortunately, the Patriarchs of the Levant, who had not participated in the Congress, later rejected all its resolutions en masse, more on general grounds of *competence* than on their merits. If the Congress had confined itself to the calendar question only, the opposition to it would not have been what it was. The Patriarch of Alexandria admitted there was no dogmatic or canonical objection to a reform of the calendar, but was of the opinion that only an Ecumenical Council could legislate in this matter. The Patriarch of Jerusalem put forward pilgrimage difficulties and the dangers of proselytism among the Orthodox flock in Palestine. The Patriarch of Antioch shared the views of Alexandria as to the sole competency of an Ecumenical Council. All three of these patriarchs considered the question, properly speaking, in a purely theoretical manner, since no change in the civil calendar had taken place in their countries and consequently no necessity had arisen for adjustment to a different calendar. They persisted in calling for an Ecumenical Council, although it was agreed on all hands that it was physically impossible to convene such a body.

So matters went on for a year or more. The progress of negotiations was summed up in a statement by the Ecumenical Patriarchate:

"Careful and impartial study leads to the conclusion that none of the autocephalous churches rejects a change in the calendar. Difference of opinion among them is due to different causes. With some it is the incompetence of the Panorthodox Congress to pronounce judgment and legislate the reform, with others it is local expediency, or the prevention of local divisions and schisms. The Patriarchate therefore favors an immediate adjustment, at the same time not neglecting all possible collaboration with the competent authorities in the preparation of a new general calendar for the Christian world."

An Encyclical from the Church of Greece emphasized the desire of good



Orthodoxists for the proposed new World Calendar: "Historically we hold that the Gregorian calendar violates the conditions of our canon for the observance of Easter. Accordingly, we have not and cannot accept it in this respect. Moreover, it is not free from other defects common to the Julian calendar, on account of which its reform is generally desired, even by western nations. A widespread desire has arisen for the preparation of an accurate calendar, free from the defects of the civil calendar now in use among all nations. Within the Orthodox Church, it is admitted and acknowledged by all that absolutely no dogmatic obstacle exists to reform.

"As, however, this general reform has not yet been possible, an immediate adjustment of some kind is required, because owing to the difference of 13 days between the Orthodox countries and their neighbors, indescribable confusion and anomaly have been introduced into social and ecclesiastical life, and thence also religious and moral injury and danger of alienation of the Orthodox laity from the Church."

The Greek Church adopted the change, but a disagreeable situation was provoked by the so-called Zealot monks of Mount Athos, whose zeal unfortunately was not tempered with knowledge. They opposed the change and rallied a group of "Old Calendarites," charging that the reform had been imposed by physical force. Political color was given to the matter. Good Orthodoxists, either from misunderstanding or evil influence, gave themselves into the hands of persons desirous of exploiting them, unfortunately, for extraneous purposes. The convening of an Ecumenical Council was proposed, but it was delayed. Opposition to it came from Russia, which was convulsed by Bolshevism, and from Serbia.

As late as 1927, the Holy Synod in Athens issued an official communication reassuring its followers: "Introduction of calendar changes does not conflict with the dogmas and traditions of the Orthodox Church. It is a tradition of the Church to celebrate the festivals on the dates fixed, but the question of when these dates fall is not a tradition, since it depends on human knowledge of natural phenomena. An all-wise Creator ordained inviolable laws for the movement of the sun, the moon, the stars and the earth. Night and day do not depend on tradition. The equinox and the phases of the moon are not a tradition. The value of the feasts and holy days does not depend on the time at which they are celebrated, but upon a pious disposition and upon their spiritual benefit."

From the Ecumenical Patriarchate in Constantinople, also, came an official pronouncement in favor of calendar reform. Under date of Feb. 17, 1927, it says:

"If our Church in unfavorable times such as were those of the 16th century, when calendar reform took place in the west, refrained from itself also correcting the error of the Julian calendar and in general condemned the one-sided calendar reform then carried out, such an attitude does not

signify and cannot possibly imply a prohibition for all time of any change whatever in the calendar. No canonical prohibition exists, and whatever prohibition there may be is concerned not with the calendar in itself, but with safeguarding the canonical decrees concerning Easter. The authentic tradition of the Orthodox Church has been faithfully preserved in the changes which have lately taken place, and nothing one-sided or arbitrary has been done. If, owing to circumstances, the change was not carried out in an Ecumenical Council, it was nevertheless carried out at the common desire of the Orthodox churches, with their common assent and indeed in a regular Great Assembly, differing only in name from a Council, and by the vote of the representatives present. The Churches which still delay in applying this change will before long introduce it, because it involves much advantage and honor to our Church, as sleeplessly caring for its flock and worthily leading it into all good and all progress."

The hope expressed in the closing sentence, that the remaining Orthodox churches would little by little adopt the changed Julian calendar, has been realized. The Church of Antioch adopted it in 1928 and the Church of Alexandria shortly afterward. Of the remaining Churches, Jerusalem and Serbia have not yet adopted the change, but have passed votes in its favor.

Although from a scientific point of view the change which has been made is limited and does not extend far enough, certainly it was correct, canonical and necessary. The further progress of the matter will show how and when the next step will become possible.

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### AS VIEWED FROM CHINA

By FELICIANO DE VICINAY, S.J., *Roman Catholic Missionary in China*

(From an Article in Spanish, published by Iberica Magazine, Barcelona)

REDUCING calendar reform to its two most important points, the aims are: first, to stabilize the date of Easter; second, to commence the year always on the same weekday. Chinese scholars have long advocated such a reform, notably Prof. Dugout, one of the victims of Nanking (1927).

It is strange, knowing the interest Catholic leaders have taken in this matter, to find a Shanghai newspaper publishing an article warning churchmen from any connection with attempts to change the Gregorian calendar. As if the arbitrary inequality of the months and their improper arrangement was the work of Pope Gregory and his assistants!

The Gregorian reform consisted mainly in the correction of the Leap Year rule. This revised rule has such great advantages that it will, of course, be retained in any further improvement of the calendar.

As for the Chinese people, who constitute almost one-third of the world's population, a calendar of 13 months would be unwelcome. On the other hand, the 12-month equal-quarter calendar would be popular throughout all China. It is to be hoped, therefore, that this project will be universally adopted.



# BUSINESS OPINION

Compiled by CHARLES C. SUTTER

**L**EADERS of American business have registered their approval of calendar reform, particularly in the action taken during the past year by the Chamber of Commerce of the State of New York. The comprehensive resolution and report of the New York State Chamber was published in the June issue of the JOURNAL OF CALENDAR REFORM. It urged the adoption of The World Calendar, and received the unanimous approval of the members of the Chamber present at the meeting where it was presented.

Both before and after that meeting, numerous letters have been received from business leaders, approving fully of the form of revision which the Chamber adopted.

"I think the plan you are sponsoring is less radical than any other, and much more feasible of adoption," declares Gerard Swope, president of General Electric, and adds, "I think, also, that it has great advantage from a manufacturing, business, governmental and accounting standpoint, as well as private and personal viewpoints, so I heartily endorse the resolution of the Chamber and the work you are doing in promoting it."

"The suggested calendar reform appeals to me," says George F. Baker, chairman of the First National Bank of New York. "I have consulted with others whose confidence I have, with the idea of finding how the proposed calendar would appeal to people running a business. The reaction I get is that the proposal seems to be a real improvement over the present calendar, that there is apparently no disadvantage to business in its adoption, that on the contrary it would seem advantageous to business to have all quarterly periods end on a Saturday."

"In the matter of calendar reform, this seems to me the best presentation of the subject that I have read; I can see good reasons why a fixed and exact year, in which the same day of the month is the same day of the week, would be a good thing," writes General James G. Harbord, chairman of the Radio Corporation. "For the railroad industry reform of the calendar would have marked advantages," states Joseph B. Eastman, Federal Coordinator of Transportation. "The question is one which can be disposed of only by international action," suggests Andrew W. Mellon.

"I am heartily in favor of international action on revision of the calendar," observes Dr. Arthur E. Morgan, chairman of the Tennessee Valley Authority. Lamont duPont, president of duPont de Nemours, asserts, "I feel that the points made are sound and the action contemplated constructive." "I certainly would highly approve, and would do my best to help," announces William Randolph Hearst. Daniel Willard, president of the Baltimore and Ohio, remarks, "I am in favor of calendar reform. Our present calendar has many objectionable features."

"I do not know of any objections to the proposed reform, and while my acquaintance is necessarily somewhat superficial, such limited examination as I have been able to give it indicates that the plan you are advocating is practical and desirable," writes Myron C. Taylor, chairman of United States Steel.

"I am entirely in sympathy with a reform of the calendar, and should think the United States might properly call an international convention," suggests George Foster Peabody, the banker. "It seems to me that such a shift as you have proposed meets the necessities of the situation with a minimum of change from the present," states Oswald W. Knauth, vice-president of R. H. Macy and Company, who adds, "Besides which, 12 is an easier number to divide into quarters than 13; and from a business point of view, I think would answer all the needs of which we today feel the lack in our varied system. You can put me down as being heartily in favor of your plan." "I see no reason why efforts should not be made to have the United States call an international convention to consider the matter at an early date, as it is one that would be very useful and should be encouraged," says Leonor F. Loree, president of the Delaware and Hudson Railroad.

"I am very much in sympathy with some of the other members of the Chamber of Commerce in regard to obtaining a reform in the calendar," declares Cleveland E. Dodge, of Phelps-Dodge Copper. "If this reform could be brought about I am sure that it would help greatly in securing comparisons in cost accounting in industrial companies. I also think that it would make it possible to rearrange national holidays so that they would fall on week-ends, which would result in a great advantage to people working in city offices." Thomas H. McInnerney, president of National Dairy, writes: "I cannot see why there would be any objection to the calendar proposed, but international action to assure its uniform adoption would certainly be necessary. In any event, your 12-month calendar is unquestionably, superior to and more practical than the 13-month calendar that has also been suggested."

"I consider that calendar reform, if it can be effected either on the entire American continent or internationally, is as vital and essential a step forward from the anachronistic calendar under which we work as any progress we have made," observes Sidney Blumenthal, chairman of the board of Shelton Looms. "I believe that by simplification much money and time will be saved, planning ahead will be easier, and friction and uncertainty will be removed from both business and private life."

"I strongly urge the adoption of a simplified calendar, and The World Calendar seems to meet present day requirements," asserts C. H. Krueger, of the Chase Brass and Copper Company. "I have been convinced for many years that a definite change is necessary in our calendar and you may record me as being in favor of The World Calendar proposed," comments L. O. Head, president of the Railway Express Agency, who adds: "The adoption of such a calendar for general use will mean much to concerns which are continually making comparisons of a month in one year with the same month in previous years."

C. D. Mallory, of C. D. Mallory and Company, announces: "I wish to state that I am in favor of adopting the Perpetual 12-Month Plan, effective 1939. It is my feeling that the United States should either call an international convention or advise the League of Nations that it is desirable that Calendar Reform be included in its agenda for 1936." "We have long favored calendar reform and believe it will be only a question of time when it will be brought about," declares Alden C. Noble, chairman of the Merchants Fire Assurance Corporation. "The 12-month calendar is, of course, the only form of modification which stands the slightest chance of adoption."

Lawrence B. Elliman, of Pease and Elliman, writes: "I was chairman of the Executive Committee of the Chamber of Commerce at the time this matter was under consideration and I am heartily in accord with the report of the Chamber of Commerce of the State of New York and believe that their recommendations should be adopted. I will be glad to do anything I can to help carry the plan through." "I am convinced that the proposed reform is timely and would prove beneficial," says John Crosby Brown, of Tamblin and Brown.

"I am in favor of calendar reform and from such study as I have given to the



problem, I am more favorable to the proposed World Calendar than to the 13-month calendar," states C. C. Johnson, president of the American District Telegraph, adding: "In view of the difficulties of such a change, I should say that The World Calendar idea would have more ready acceptance and would give practically all of the advantages of the 13-month calendar."

"I strongly recommend a change in our present calendar to a modern, practicable and workable calendar, to be put in universal practice through international agreement," suggests W. F. Hartranft. "The World Calendar is, by far, the best substitute that I have seen, because it is simple, clear, accurate, convenient and appears free from practical difficulties. It is very serviceable, for it equalizes the quarters, stabilizes our time system, and definitely and perpetually fixes our special days. I hope for its speedy and universal adoption."

"I feel very definitely that the United States could well assume responsibility for sponsoring an international convention to consider the matter," writes Robert Fechner, director of Emergency Conservation Work, Washington. "We are in favor of your proposed revision of the twelve months calendar," declares A. M. Stebbins, Pacific Mills. R. H. Gregory, comptroller of Western Electric, suggests: "The government should endorse through Congressional action the 12-month plan and endeavor to secure its adoption by other nations." "Calendar reform is a most important need for all interests," asserts T. O. Kennedy, of the Cleveland Electric Light and Power Company, "and President Roosevelt should make it a part of the New Deal."

"The World Calendar you propose seems to be logical and a great improvement over the present one," comments Charles F. Noyes, of the Noyes Real Estate Company, "it has definite advantages I think over the so-called 13-months calendar." R. H. Johnson, of R. H. Johnson and Company, writes: "I was at the meeting of the Chamber of Commerce of New York which took up the matter of calendar reform. The matter interested me and I wish to state that on investigation I think your aims for calendar reform are worthy ones and will benefit business and industry."

"I am very glad to endorse this work," announces L. R. Gwyn, vice-president of the Railway Express Agency, "and I am thoroughly of the opinion that a reform of our calendar will be a great blessing to every business man—in fact, everyone—who has to do with comparisons of any kind. Since the world uses the present calendar, I am inclined to think that an international convention is the best way to handle it, but it should be done as soon as possible." "Calendar reform seems most desirable; I wish you success in your undertaking," comments Archie H. Loomis, president of the Lehigh Harlem River Terminal Warehouse.

James F. Latimer, of Blythe and Company, bankers, points out: "There is no effective argument for continuance of the old calendar, but there are many good reasons for the adoption of The World Calendar." W. C. Lippencott, insurance broker, declares: "I am hopeful that The World Calendar may be put in general use by 1939. It would be a shame to have it delayed until 1950." "I fully endorse the action of the Chamber of Commerce of the State of New York," remarks Henry F. Tiedemann.

"Anything that helps simplify methods of recording is good and should be supported," observes James G. Timolat, chemical manufacturer. C. F. Ahlstrom, printing press manufacturer, notes: "If there must be a change in the calendar, the simplicity of The World Calendar should give it the preference." Charles L. Bernheimer, cotton merchant, asserts: "Nothing but mankind's inertness has delayed calendar reform. The World Calendar proposal for a 12-month year is, in my belief, superior to the exotic 13-month plan." "I have long been in favor of calendar reform and highly approve your proposal," writes Frank Boehm, insurance manager.

"The World Calendar of 12 months is a step in advance," declares Morgan H. Grace, exporter. H. Boardman Spalding, vice-chairman of A. G. Spalding Brothers, writes: "I am in complete accord with the resolution of the New York State Chamber of Commerce." "I heartily approve of the action of the Chamber of Commerce in favor of calendar reform," says William Fellows Morgan. Col. Gustave Porges, president of Strohmeier and Arpe, states: "An international calendar reform such as suggested would, in my opinion, prove a very decided advantage to business."

# ROMANCE OF THE CALENDAR

By P. W. WILSON

## CHAPTER III: THE CHARTER OF COINCIDENCE

TIME is described as a weaver who spins his thread at the revolving wheel of the years, and sits at what Goethe in *Faust* calls—not quite accurately in the use of the adjective—his “humming loom.” They who have watched the swift flight of the shuttle, back and forth, and listened to the bang of the big beam on the warp and woof as they lengthen into cloth, may be allowed to doubt whether any loom has ever “hummed.”

Many and various are the fabrics that emerge in their multiplicity of colors and designs from the busy loom of time. In the fourth chapter of Genesis, we read of Jabal who, as the first of the nomads, was “father of such as dwell in tents”—of his brother, Jubal, first of the musicians, who was “father of all such as handle the harp and organ”—of Tubal-Cain, the first of the craftsmen, who was “instructor of every artificer in brass and iron.”

Can it be said that, during the millenia of man’s recorded activities, however many of these millenia there may be, anything has been elaborated that, in its field of uninterrupted continuity, is comparable with the calendar? In his treatise on Babylonian *Menologies and the Semitic Calendars*, Professor S. Langdon of Oxford tells us that “the calendar is the framework of any civilization, the time index for all business transactions and religious observances, the rule by which all daily life is regulated.” On every statute, on every franchise, on every constitution, dates are the finger-prints of time as the viceroy of eternity. Here is a fabric, light as air, that may be likened unto one of those finest silks of the Orient, handwoven with exquisite skill and patience, which can be unfolded as an ample shawl for the shoulders whence it falls by its weight, clinging closely to the form. Yet its supple folds can be drawn—untorn, uncreased—through a ring no larger than a lady’s finger. On the one hand, empires look with apprehension on *Der Tag*—the doomsday of Armageddon, where the fate of civilization is put in peril. On the other hand, there is what youth calls “a date” where the happiness of lovers is to be decided.

The calendar in all its various forms and variations has thus been catholic before catholicism and international before many of the nations were aware that the rest of them existed. Nor does the raiment, however constant and even careless its use, show the least signs of wear and tear. Wars are waged. Revolutions transform the system of society. But this raiment, like the everlasting mercies, is new every morning, and the only question that can arise, is whether, here and there, some gracious convolution might



not be more perfectly assimilated to the body politic which is thus nobly arrayed.

Man has been surveying the marvellous tapestry of time and, especially in our own day, has devoted an incredible amount of energy to recovering his archives from oblivion. Everywhere these archives are punctuated by dates that are the finger-prints of time as the viceroy of eternity. It is not easy to discover a record that fails to contribute its quota—a battle, the building of an edifice, a natural calamity, whatever the event may be—to the reconstruction of what has become a world-wide chronology. There has been accumulated inevitably an immense mass of miscellaneous information about calendars, ancient and modern. Some of this knowledge appears at first sight to be an inextricable abracadabra of arithmetic and astronomy and archaeology.

In our pilgrim's progress along the highway of history, we have thus to traverse regions which cannot be contemplated without a sense of dismay. The landscape includes all continents in all eras. Within these continents, we find calendars—Babylonian and Egyptian, Indian and Chinese, Roman and Greek, Hebrew and Moslem, Runic and Mexican and Polynesian—which are formidable in their diverse complexities. It is not wholly frivolous, therefore, to encourage ourselves by a reference to the admirable legend of Theseus who explored the maze in Crete wherein the Minotaur had his lair. The princess Ariadne gave him a ball of thread which he unwound as he entered and rewound as he escaped from the labyrinth. So let us hold firmly to the thread of the argument.

Sitting at a desk, most of us have a calendar of some kind within our line of vision. Often it is an ornamental affair—possibly a square of glass enclosed in a frame and, behind the glass, the days of the month are shown on a card. When the month is over, the card is turned or replaced by a new one, and there appear the days of the next month.

It is a queer little affair, this monthly calendar, with its neatly printed phalanx of figures, marshalled in orderly ranks according to letters that indicate the days of the week. Can it be that we have here a combination, as of a safe, that unlocks a door into the past—an Open Sesame that admits us into the echoing caverns of history—a cryptogram which, read aright, reveals a clue to some meanings at any rate of the life that we have to live on this planet? Look into the glass on the calendar as into a magic mirror and you will see dim and clouded reflections—shaven priests in their slow parades within the shadows of the Pyramids—the majesty of Babylonian monarchs—the ancient scholarship of a China that has faded with the centuries into the prehistoric—Maya maidens advancing in processional dance to the terraced shrines of Yucatan—Hebrew rabbis studying the priceless scrolls of their Mosaic law—Popes in the Vatican consulting the most venerable of their learned ecclesiastics—astronomers in their obser-

vatories filling volumes with their geometrical calculations—captains of industry examining graphs and charts of production and consumption and costs—seamen in their ships whose safety depends on the accuracy with which they take their bearings according to the Nautical Almanac—even the aviator whose elaboration of clock and compass is the calendar of the clouds.

What, then, is the essential meaning of this amazing instrument of convenience—its supreme and peculiar value—its *raison d'être*? Is there not a phrase that expresses the central idea? The calendar may be defined as a charter of coincidence.

There are words that we are apt at times to depreciate. Such a word is coincidence. Two people meet in the street and what do we say about it? The meeting was “merely a coincidence.” Yet what would be this world in which we live if innumerable coincidences did not momentarily occur—if nothing anywhere were like anything else—if all clocks told their own time—if the length of every day were different from the length of every other day? Suppose that when the clock strikes, the train did not start. Suppose that when the train started, the signal did not turn from green to red. Suppose that when the sun rose, man did not go to work—that when the sun set, he did not receive his wages. Coincidence is the alternative to Chaos, and as the charter of coincidence, the calendar is an expression—certainly the earliest expression and perhaps the only expression even today—of what ought to be order in a disorderly world.

It is coincidence that alone unites species, including man himself. Certain of these coincidences are compulsory. All of us breathe, all of us sleep, all of us eat and drink. Otherwise all of us would die. For other coincidences, man is himself responsible. In nature, there is no reason why soldiers should wear the same uniform and march in step. The uniform was designed by man and the march was ordained by man. So with an elevator. In the laws of gravity, there is no reason why it should stop at a floor and start again. It is man who so arranges it.

It is man who has elaborated the calendar. I write these words, you read them, and we seem to be, as we think, strangers. But time as the weaver has threaded a slender link between us. “What day is this?” you ask, and do not I ask the same question? You look at your calendar, and it tells you the date. Do not I look at my calendar, and does it not tell me a date that is the same as yours? In race, in religion, in nationality, in occupation, in age, in sex, in tastes, we may differ. Over beliefs and ambitions we may quarrel. But there is one point on which—despite our emotions and animosities—we agree. It is the day of the month of the year. Napoleon lost the battle of Waterloo. Wellington won it. Vanquished and victor remember June 18th, 1815.

We cannot say of any calendar that its use is exclusive of the use of all other calendars. For certain purposes, great communities—Chinese,



Moslems, Hindus, Jews and the Eastern churches among them—continue their own systems of measuring time; also, in a world less literate than we are apt to realize, there are millions of people who do not know and are not yet qualified to find out what is the day of the month of the year. This, however, we can say of the calendar with which we are familiar—the Gregorian Calendar, as it is called—that it is international, inter-religious, inter-occupational and inter-racial. Every day its use and its value are spreading further and further afield. It is not much of an exaggeration to claim that, to all intents, this calendar is universal.

In what kind of a world has this calendar been developed and maintained? There is talk about the brotherhood of man and some of us suppose that within the brotherhood, everybody lives by the golden rule, loving his neighbor as he loves himself. If the world around us had been really like this, how easy to elaborate the calendar!

No biologist, no physician is under any illusion as to the brotherhood of man. That brotherhood is not an ideal to be attained. It is a fact to be faced. Nor do men become brothers by adopting certain principles. It is as brothers that they are born and it is as brothers that they behave. Not in love but in hate was brotherhood inaugurated. It was because he was a brother that Cain killed Abel.

We say of histories that they lay undue emphasis on battles and sieges. Yet there have been bitter conflicts between nations and within nations terrible animosities have developed. Even in our own day, schisms within the brotherhood of man yawn on every side like chasms at our feet. In India there are persistent Hindu-Moslem riots. In Palestine, the Moslem and the Hebrew are competitors. In Turkey, it has been found impossible for people of diverse culture to live in peace side by side. Armenians have been slain by the million. Greeks have been deported by the hundreds of thousands. Peace or war, as we all know, is the issue.

This is the discordant world in which the calendar has been developed and well may we say that here is a miracle of unanimity. Humanists are assured that all thought, including religion, originates in man himself. The divines insist that, within the mind, there is a shrine where man, if he listens, can hear the voice of God. Tennyson would have said that the calendar is "both human and divine." It is the result, at once, of reason and of mysticism and thus it is used. On the one hand, it is indispensable to merchants and bankers and the professions. On the other hand, it is essential to churches and synagogues and temples and mosques. For thousands of years, it has been associated both with the worship of God and with the service of man.

*(To be Continued)*

# EXCERPTS AND REVIEWS

## *No. Doubt Among Scientists*

By PROFESSOR G. SCHINDLER

State Meteorologist at Podersam, Bohemia.

(Abstracted from *German Meteorological Review*)

IT IS really surprising that today, with so many meritorious plans of standardization adopted in industry and science, the long-advocated reform of the calendar has not been already put into effect. Scientists have repeatedly indicated their approval of such a change, among them the great Svante Arrhenius. In meteorology I need mention no more names than those of Karl Fischer and W. Koeppen, whose examinations of this subject are well known.

It is unnecessary here, therefore, to indicate again the list of inadequacies and irregularities of our present calendar. But from the meteorological viewpoint it should be repeated that our abbreviated February is a continual and disagreeable reminder. February is a month in which variations in temperature are often wide. For instance, Feb. 11, 1929, showed a temperature at our station of 42 degrees lower than that of Feb. 10, 1933. Now the winter of 1928-29 was probably an exceptionally severe one. We would really like to know, statistically, whether February, 1929, was normal, too warm or too cold. The figures might even show whether the temperature of the entire winter was abnormal. And the missing two days of February might be the ones to decide that question. The winter of 1928-29 would probably turn out statistically even more severe than our records indicate, if the first two days of March, with temperatures as low as 25 below zero, could be included.

This example indicates why meteorologists want calendar revision, and approve the renewed efforts which are now being made to enact it internationally.

These efforts, however, should have the earnest and studious attention of all scientists, because one of the current proposals is for a year of 13 months, which should be emphatically rejected in advance, if for no other reason that it makes a quarterly division of the year awkward, inconvenient and perhaps impossible.

The calendar advocated by Arrhenius in Scandinavia and currently by Blochmann, Aust and others in Germany, is the same in principle and in most details as that advocated in America as The World Calendar. The best year for its adoption is 1939, when the present calendar begins on a Sunday, thus making the transition to a perpetual calendar simple and easy. There can be no doubt among scientists that the world should strive to make that year the beginning of an enduring new calendar, one worthy to stand beside our other standard systems of measurement.

## *Story of Sosigenes*

By PROFESSOR FREDERICK HARRISON

Oxford University

(From the "New Calendar of Great Men")

OF THE author of the Reform of the Calendar, under Julius Caesar in 46 B.C., nothing whatever is known except that he was an astronomer of Egypt. He was doubtless an Alexandrian Greek. When Julius resolved on amending the Roman calendar, which was now 67 days in advance of the true year, he called in the assistance of the astronomer Sosigenes. Caesar was himself a student of astronomy, and had written a treatise which long remained in use. Using his authority as Supreme Pontiff and as dictator of the Roman world, he accomplished the reform which is still the calendar of the Christian nations. It was substantially the same as that which had been introduced into Egypt by the Ptolemies two centuries before.

The year 46 B.C. Julius made to consist of 445 days; it was called the *year of confusion*; but it was more properly the *last year of confusion*. The reformed year began, not on the 25th of March, but on the 1st of January, 45 B.C. The new year was one of 365 days, with an additional day for every fourth year, in February. The alternate months of the year (January, March, May, July, September, November) were to consist of 31 days; the intervening months were each to be of 30 days (February being 29, except in leap years). This symmetrical arrangement was upset by the vanity



of Augustus in 27 B.C., when he gave his own name to the eighth month, then added the day he took from the ninth, and otherwise varied the lengths of the months into their present irregularity.

The Julian year of  $365\frac{1}{4}$  days was too long by 11 minutes and 12 seconds. This must have been known to Caesar and to Sosigenes, as more than 100 years before it had been proved by Hipparchus, whose calculation was within 4 minutes of the truth. Hipparchus had calculated that the error would amount to a day in 300 years; but it seems that the error is more than double and would amount to a day in 128 years. Caesar and his astronomer doubtless considered that the secular error might be left to the future to correct. They could hardly anticipate that it would be binding on Western Europe for 16 centuries, and on Eastern Europe for nearly 20 centuries. Yet so it has proved.

The Julian Calendar, as deformed by Augustus, governed Christendom until 1582, when Pope Gregory XIII, by the advice of Lilio and other astronomers, struck out the ten days then in excess, and reformed the Calendar of Julius by an order that the last year of each century should be leap-year only when it is exactly divisible by 400. That is to say, three leap-years are suppressed in every four centuries. The years 1700, 1800, 1900 were not leap-years; 2000 will be. England accepted the Gregorian Calendar in 1752, but Russia only recently. The Greek rite still retains the Julian Calendar, in which the error now amounts to 13 days, 1900 A.D. having been counted as a leap-year.

## *Progress in Great Britain*

By J. B. PERRY ROBINSON

(In *Home and Empire*, London)

WHAT is the date of the first Sunday in April? On what day of the week will Armistice Day fall? How many working days will there be in March? Does your birthday fall on a Sunday this year?

It is because most people would find it impossible to answer these questions and many others of more importance without consulting a calendar that there has grown up in this country—and indeed all over the world—a movement for reform-

ing the calendar and ironing out most of its inconveniences and defects.

Hardly a day passes throughout the year in which we are not caused unnecessary trouble by the clumsiness of our comic calendar system, although we have become so accustomed to it that we hardly notice it.

Modern man has subdivided eternity down to years, months, weeks, days and tiny fractions of the day mechanically recorded, but he has always been beaten by the fact that Nature does not conform to human arithmetic.

The year, instead of being fifty-two weeks long, as we like to delude ourselves (for the sake of convenience), is a day longer than that. And not only a day longer, but a day and a quarter. And not an exact day and a quarter, as Julius Cæsar thought when he introduced his Leap Year system, but only a day and five hours forty-eight minutes and forty-nine seconds (approximately). The result of Cæsar's mistake was that, as the centuries passed, the calendar and the sun didn't agree and the spring equinox became more and more wintry.

In the sixteenth century it was felt that something would have to be done about it, and Pope Gregory, after taking astronomical advice, took ten days out of the year. He also revised the Leap Year system, made January the official first month instead of March, and established the extraordinarily complicated method of discovering the date of Easter, which may be found at the beginning of the Prayer Book.

All that was in 1582, and the Roman Catholic nations adopted his reforms at once, but it was another 170 years before England followed suit, and by that time another day had been lost.

It was the famous Lord Chesterfield who was responsible for our last reform of the calendar, and in 1751 a Bill was passed providing that the legal year, 1752, should begin on January 1st, and that the eleven days, September 3rd to 13th, should be omitted. So drastic a reform shocked the die-hards of those days, who regarded tampering with dates and days as something profane, while the ignorant masses were outraged at the idea of their lives being shortened by Act of Parliament.

# CURRENT PRESS COMMENT

## *Meeting a World Need*

(From an editorial in *Pathfinder*, organ of the United Church of Canada)

**O**BJECTIONS to the 13-month calendar are not objections to calendar reform itself for the world cannot much longer function effectively without a revision of the calendar. The proposed 12-month revision, known as The World Calendar, appears far superior. This time-system is approved by practically everybody who examines it. It remedies most of the defects of the present system. A few minutes' study will reveal the salient features of this scheme. It involves the minimum of change in going from old to new.

The 13-month calendar is very radical, and with such a system the convenient divisibility of the year would disappear. Canadians who have interested themselves, and are interesting others, in this subject, are in favor of The World Calendar. It is a duty to understand this matter so that an intelligent stand may be taken on the issue. The government will not ratify any drastic change without discovering the wishes of the people. To be effective, the new calendar must be one that is universally acceptable.

## *Religious Significance*

(From an editorial in the *Christian Advocate*, Nashville, Tenn.)

**F**ROM the head of the Eastern Orthodox Church, with 140,000,000 adherents, comes a statement on calendar reform, together with an introductory statement by Dr. S. Parkes Cadman. The summary of the position of the Eastern churches on this question constitutes a challenge to the Western churches.

Two plans for calendar reform have been developed, the 13-month proposal and The World Calendar. Archbishop Germanos opposes the former and favors adoption of the latter.

The 12-month equal-quarter plan, which the Eastern church has supported in many international conferences, seems an entirely logical and effective way of remedying every serious defect of the present calen-

dar. And from the viewpoint of the earnest churchman, it has important implications which go far beyond its merits as an improved civil and business measuring rod. For the calendar has a religious meaning, too, and a revised calendar will inevitably have an effect in unifying and stabilizing the church calendars of all the great communions. The significance of this movement in its bearing on church unity, is what has won for it the attention and support of church leaders.

## *Urged by Scientists*

Wilmington (Calif.) *News*

**I**NTERNATIONAL action by scientists to obtain a reform of the present calendar has been launched by the Seventh American Scientific Congress, which has just concluded its quadrennial meeting.

The 400 delegates, including prominent scientists from every country in North and South America, received a request from the Mexican government for their support on a plan for a revised calendar, and after a committee study of the subject, the Congress passed resolutions pledging the full support of scientists.

## *One Thing Is Certain*

Erie (Pa.) *Times*

**C**ALENDAR reform is again attracting the attention of the learned societies. A modified 12-month plan is now finding favor over the 13-month calendar urged by George Eastman of Kodak fame.

Besides the American Philosophical Society, other advocates of this World Calendar are the American Statistical Association, the Chamber of Commerce of the State of New York and the Protestant Episcopal Church.

The day is not far distant when all civilized countries will have a new calendar, designed to meet the requirements of modern life, one which need not be constantly consulted to find out on what day of the week a given day falls.

But one thing is certain—it won't be a 13-month year. Those who agree with me will please rise and say "aye." The "ayes" have it.



# JOURNAL OF CALENDAR REFORM

EDITORS

CHARLES D. MORRIS

CHARLES C. SUTTER

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ELISABETH ACHELIS, *President*

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FROM the American Academy of Arts and Sciences, meeting in Boston, comes a significant resolution on calendar reform. It is a reconsideration of a former action taken by this learned body, and it states that, whereas several years ago they saw fit to approve and endorse the movement for a 13-month calendar, they now feel that the 12-month revision urged by The World Calendar Association is the plan which has met with the widest international approval, and the only one which seems likely to win international adoption and enactment. They therefore hasten, in formal resolution, to give it their fullest endorsement and urge its enactment by the nations by the beginning of 1939.

Similar action endorsing The World Calendar was taken a few weeks previously by the quadrennial meeting of the American Scientific Congress, by the American Philosophical Society and others. Other important learned societies which are meeting during the next four months may be expected to act in a like way.

Science, government and the church, it appears, are rapidly reaching a complete and enthusiastic agreement on the method by which the calendar should be revised. Fortunately, the method for which they are asking is one which can be put into effect without disturbance, and with a minimum of inconvenience to the general public. It is not a revolutionary novelty. In fact, the proposed change is one which can become effective on January 1, 1939, almost without being noticed. The international machinery for reform is ready, and will presumably be set in motion by the League of Nations at the approaching meeting of the Transit Commission in the early Spring.

From the viewpoint of science and education, one of the clearest statements which has yet been published is the report made by the special committee of the American Philosophical Society, published on the first pages of this issue of the Journal of Calendar Reform. Both the report and the resultant resolution are admirable examples of clear and logical thinking, intelligently presented in forceful English that cannot be misunderstood, even by the most casual reader. We commend the perusal of this brief report to everyone interested in the subject of calendar reform.

# FROM THE MAILBAG

I am personally strongly in favor of Calendar Reform.—Dr. L. S. Rowe, Director General, Pan-American Union, Washington.

Have been much interested in the articles you have sent and I thoroughly believe in your objective from every point of view.—J. A. Kinghorn, Coal Dealer, Providence.

The 13-month year seems to me impractical.—C. Butler, Architect, New York City.

I am unalterably opposed to the 13-month plan, which I have studied quite carefully. The departure is too radical.—Rev. M. E. Pearson, Salem, Mass.

You may be interested to know that in 1929 we submitted a questionnaire to our members: Whether the calendar should be reformed? Whether the United States should take part in an International Congress to consider the matter? We received 1,021 replies of which 823 were in the affirmative and 251 were in the negative.—M. H. Esser, Gen. Sec., Chamber of Commerce, Rochester.

Anyone who has taken time to study the calendar knows we are about due for a reform; we have gotten into rather a sorry plight under the old regime as illustrated last year: Easter came not only too early, but at a time entirely unexpected.—Rev. Henry Darlington, New York City.

I read your Journal with unabated interest, and I am more than ever in favor of The World Calendar.—I. E. Hirsch, Pittsburgh.

The claim that there would be great advantage from a statistical point of view in having 13 equal months is seriously misleading. Equality does not mean comparability. It would still be necessary to allow for seasonal variations in making statistical comparisons and analyses. A February and an August of equal length would be no more comparable, as far as virtually any kind of statistics is concerned, than are a week in February and a week in August under the present or any other calendar. Calendar reform cannot create comparability which does not

exist.—H. M. Flinn, Amer. Tel. and Tel. Co., New York City.

The 13-month plan would be calendar deformation instead of reformation; would be worse than our present system.—A. W. Martin, Tarkio College, Tarkio, Mo.

The "Journal" is making history. It is fine literature and a fine job throughout.—C. A. Bauer, Statistician, New Orleans.

Believe that advantages of a year whose dates do not differ greatly from long-established ones, and which is divisible into one-half and one-quarter and one-twelfth (i.e. 12-month calendar) outweighs advantages of 4-week months (13-month calendar).—D. H. Leavens, Harvard Business School, Boston.

I am convinced that our present calendar is illogical, confusing, and introduces unnecessary complications into not only statistical work, but also daily living. The worst feature from the scientific point of view is the illogical division into unequal months (not only as regards to length, but also working days, etc.) and unequal quarters, which seriously impairs the value of statistics and necessitates much manipulation to make months and quarters comparable. A new calendar would greatly simplify much of the statistical and accounting work of business.—Dr. J. A. Neprash, Prof. of Sociology, Franklin and Marshall College, Lancaster, Pa.

Have always been interested in this question.—R. E. Laramy, Supt. of Schools, Altoona, Pa.

An effort should be made to educate Congress. The present administration is receptive to new ideas.—Pierce Butler, Teacher, New Orleans.

The reform of the calendar is certain to take place in the not distant future. In view of this fact, it seems best that the Churches, which have so deep and important an interest in it, should lead in the matter.—Rev. C. A. Jessup, St. Paul's Cathedral, Buffalo.

Very much interested in calendar reform—put it across by 1939!—C. M. Pruitt, New York University.



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**BOLIVIA:** Comité Boliviano del Calendario Mundial, Don Moises Santivanez, Chairman, Biblioteca Nacional, Sucre.

**BRAZIL:** Comité Brasileiro del Calendario Mundial, Captain Radler de Aquino, Chairman, Rua Raul Pompeia No. 133, Rio de Janeiro.

**CANADA:** Rational Calendar Association, Erland Echlin, Secy., 268 Glenlake Ave., Toronto.

**CHILE:** Comité Chileno del Calendario Mundial, Padre Valentin Panzarasa, Chairman, Rector del Colegio Patrocinio de San Jose, Bellavista 0550, Santiago.

**COLOMBIA:** Comité Colombiano del Calendario Mundial, Dr. Eduardo Posada, Chairman, Consulado General de Honduras, Apartado 42, Bogota.

**COSTA RICA:** Comité Costarricense del Calendario Mundial (Igualmente de Guatemala, Honduras, San Salvador y Nicaragua), Don Teodoro Picado, Chairman, Ministro de Educacion Publica, San Jose.

**DENMARK:** Danish Calendar Reform Committee, Countess Benika Reventlow, Secy., Brahe Trolleborg, Korinth, Fyen.

**ENGLAND:** Rational Calendar Association, C. David Stelling, Director, 38 Parliament Street, London.

**FRANCE:** Bureau d'Etudes pour la Reforme du Calendrier, Paul Louis Hervier, Secy., 5 Rue Bernoulli, Paris.

**GERMANY:** German National Committee on Calendar Reform, Ministry of the Interior, Berlin—Der Weltbund fur Kalenderreform, Dr. Rudolph Blochmann, Secy., 24 Lorscheinstrasse, Kiel.

**GREECE:** Greek National Committee on

Calendar Reform, Prof. S. Plakidis, Secy., Observatory of Athens, Athens.

**HUNGARY:** Hungarian Committee for Study of Calendar Reform, Dr. Paul Vajda, Secy., 9 Eotvos Utcas, Budapest.

**IRISH FREE STATE:** Committee for Calendar Reform, E. K. Eason, Secy., 80 Mid. Abbey St., Dublin.

**ITALY:** Italian National Committee on Calendar Reform, Prof. Amedeo Giannini, Secy., Via del Seminario, 113, Rome.

**MEXICO:** Comité Mejicano del Calendario Mundial, Don Joaquin Gallo, Chairman, Observatorio Astronomico Nacional, Tacubaya, D. F.

**PANAMA:** Comité Panameno del Calendario Mundial, Don Octavio Mendez Pereira, Chairman, Panama.

**PERU:** Comité Peruano del Calendario Mundial, Don Luis Montero y Tirado, chairman, Casilla 220, Lima.

**SOUTH AMERICA:** Comité Latino-Americano del Calendario Mundial, Dr. I. Gajardo Reyes, President, Santiago, Chile. This committee directs the activities of national organizations in Argentina, Brazil, Costa Rica, Mexico, Uruguay, Chile, Bolivia, Colombia and Panama. The honorary president of the committee is Dr. L. S. Rowe, Director General of the Pan-American Union.

**SPAIN:** Spanish Calendar Reform Committee, Father Luis Rodes, S. J., chairman, Ebro Observatory, Madrid.

**SWITZERLAND:** Swiss National Committee on Calendar Reform, Prof. Emile Marchand, Secy., 4 Jenatschstrasse, Zurich.

**TURKEY:** Committee on Calendar Reform, Prof. Ihsan Ali, Secy., Ayas Pasa Nimet Apt. 3, Istanbul.

**URUGUAY:** Comité Uruguayo del Calendario Mundial (Igualmente del Paraguay), Prof. Alberto Reyes Thavenet, Chairman, Liceo de Enseñanza Secundaria Hector Miranda, Calle Sierra 2268, Montevideo.